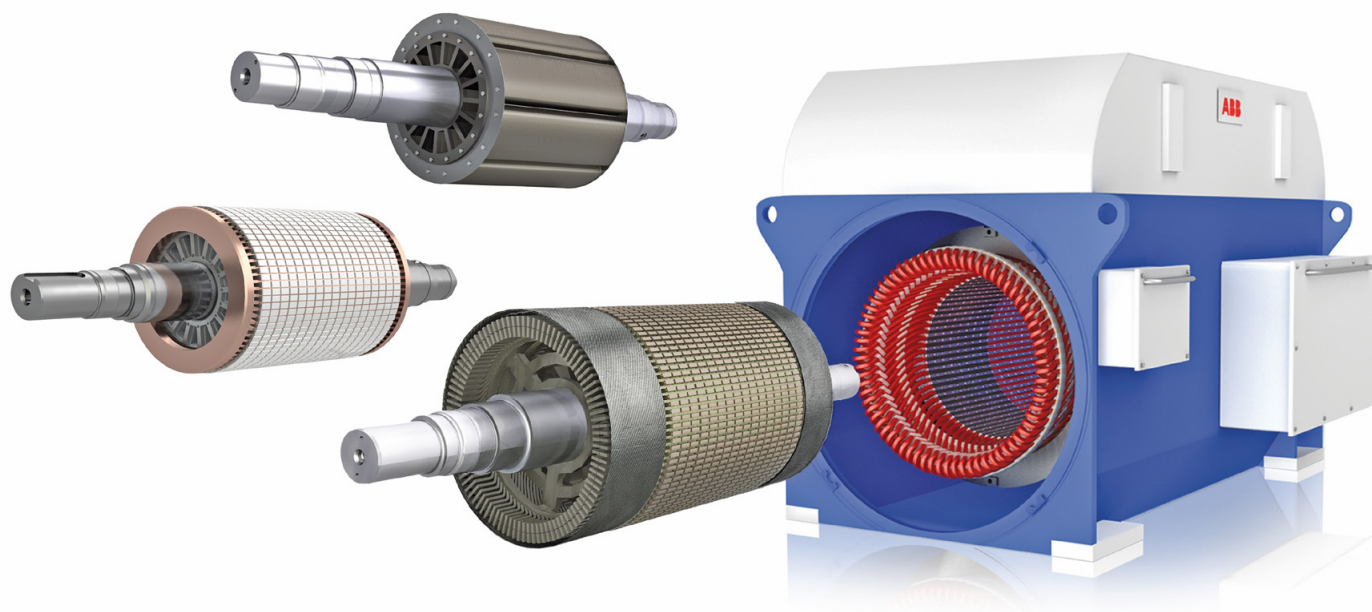


Technical note

Wind power generators

One platform for all high speed solutions



Main drivetrain concepts – both Doubly-fed (DF) and Full converter (FC)

All high speed solutions – using DF, PM or squirrel cage rotors

One generator platform – reliable, cost-effective, fast delivery

All MW class turbine sizes – a proven fast-track for offshore turbines

Flexible generator platform

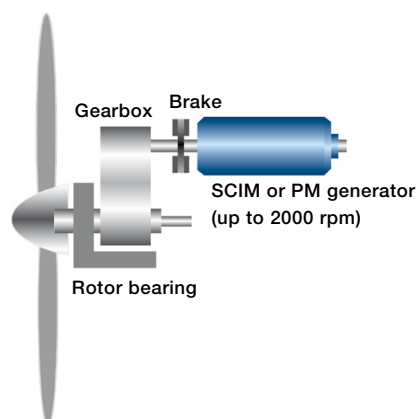
The ABB platform design covers all high speed solutions by using squirrel cage, DF or permanent magnet rotors. The common DF can be upgraded easily to FC concept, still keeping the same familiar drivetrain construction. The standard base construction for different powers enables high quality large-scale manufacturing for fast deliveries and the modular turbine interface connections can be modified to suit individual customer specifications. It is also an excellent choice as a replacement unit at existing wind parks.

Key advantages:

- Flexibility in concept selection
- Same drivetrain for different markets
- Easy upgrade from DF to FC concept
- High power density, small size, low weight
- Component availability, logistics, assembly
- Fast-track market introduction of new turbines
- Easier to establish local manufacturing worldwide

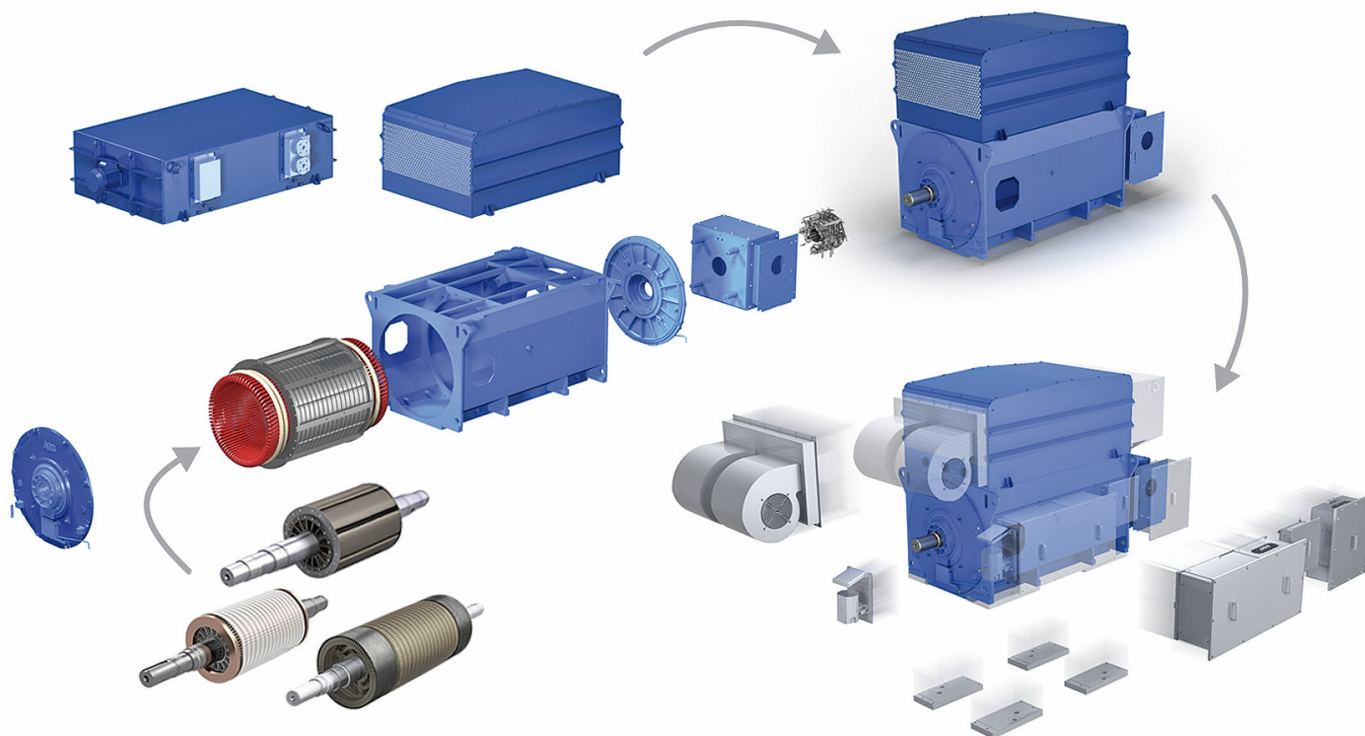
Standard drivetrain

Choosing the common high speed drivetrain enables small turbine size and offers an easy adaptation of both DF and FC concepts without the need for extensive re-engineering. It gives a fast-track for a new turbine concept and the multi-megawatt class offshore market. One drivetrain for all sizes also enables a global market approach with identical production lines and simple supply chain management in all main markets.



Power and productivity
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The ABB flexible modular concept fits most turbine designs and both DF and FC concepts.

Typical data of high speed generators up to 7 MW:

Frame size	500–710
Frame / power (depending on speed)	500 up to 3.0 MW 560 up to 4.0 MW 630 up to 5.5 MW 710 up to 7.0 MW
Speed range	up to 2000 rpm
Rotor options	Doubly-fed (DF) Permanent magnet (PM) Squirrel cage
Cooling	Air or water cooled
Voltage	690 V to 15000 V
Frequency	50 and 60 Hz
Ambient	Standard: - 20°C ... +50°C Low temp: - 30°C ... +50°C
Typical dimensions (PM type, LxWxH, weight)	500: 2500 x 1700 x 1800 ; 5–7 tn 560: 3000 x 2100 x 1900 ; 7–10 tn 630: 3200 x 2300 x 2000 ; > 11 tn 710: 3700 x 2400 x 2300 ; > 15 tn

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In the wind power sector, ABB is the largest worldwide supplier of electrical solutions, technology and market leader in generators, converters, motors, transformers, circuit breakers & contactors and HVDC.

ABB has delivered more than 30 000 generators over 30 years for wind, based on experience since 1889. Leading turbine manufacturers of all drivetrain types rely on proven ABB technology, offering solutions such as inner or outer rotor direct drive PM generators, integrated medium speed generators and our flexible high speed platform.

Proven ABB solutions provide continuous operation for maximum energy production with lowest lifetime cost.

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